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(54) Title: PACKAGING FOR BOTTLE

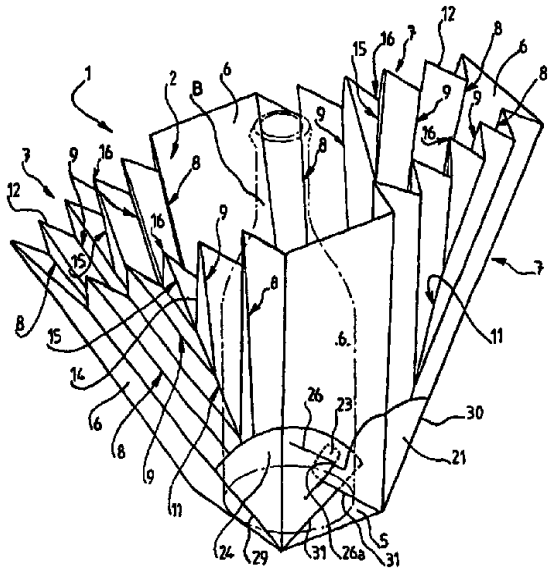
(54) Titre: EMBALLAGE POUR BOUTEILLE

(57) Abstract

The invention concerns a package for bottles, comprising an envelope (1) having parts which are alternatively planar (6) and accordion–folded (7), and capable of being unfolded to receive a liquid for refrigerating the bottle (B). Each accordion–folded part (7) is folded on either side of a planar folding line (11), extending in zigzag from the base (5) of the envelope (1) to the free edge (12) thereof.

(57) Abrégé

La présente invention concerne un emballage pour bouteille, incluant une enveloppe (1) présentant des parties alternativement planes (6) et repliées en accordéon (7), et susceptible de se déployer pour recevoir un liquide permettant de réfrigérer la bouteille (B). Chaque partie en accordéon (7) est repliée de part et d'autre d'une ligne de pliage plane (11) s'étendant en zigzag depuis le fond (5) de l'enveloppe (1) jusqu'au bord libre (12) de celle–ci.



In general, the present invention concerns packaging made of cardboard or the like and, in particular, packaging for a bottle.

More precisely, the invention concerns packaging for a bottle, comprising an envelope formed from an impermeable and approximately planar surface, such as a cardboard blank, which is folded in such a way as to have a bottom and an enveloping wall, which is formed by planar parts that alternate with accordion-folded parts, each accordion-folded part being connected to some first and second adjacent planar parts by some first and second respective shared edges which meet at the bottom of the envelope in order to form a principal V-shaped fold, wherein it is possible for this envelope to be unfolded in order to constitute a container suitable for holding a liquid capable of refrigerating the bottle placed in this container.

A packaging of this type is known, for example, from US Patent No. 5 094 359 and German Patent No. 1 205 005.

As is shown in particular by the latter document, such packaging can be used, specifically in its folded configuration, to protect its relatively fragile contents, such as a champagne bottle, from impact, and in its unfolded configuration, to fulfill the function of a champagne bucket.

An essential difficulty which must be overcome by the realization and use of such packaging lies in the absolute necessity of seeing to it that this packaging is and remains water-tight in its unfolded configuration in spite of the possible deformations and surface wear which it may undergo from the time of manufacture to the time of final use.

In this context, the task of the invention is precisely to propose packaging which is specifically designed to comply with this requirement.

For this purpose, the packaging of the invention, in other respects in accordance with the definition given for it in the preamble above, is essentially characterized in that each accordion-folded part is folded on both sides of a planar folding line extending from the bottom of the envelope to a free edge of this envelope, said planar folding line being a broken line forming an alternating series of external angles and reflex angles.

The main advantage thus offered by the arrangement of the invention is that the vertices formed by the folding lines are distributed along the folding line in a zigzag instead of being concentrated in the same region as disclosed, for example, by German Patent No. 1 205 005, since such a concentration promotes a significant increase in the fragility of the envelope in the region of concentration.

In the preferred embodiment of the packaging of the invention, in addition to some first and second shared edges that define the principal V-shaped fold, each accordion-like part has internal folding lines that define at least two additional V-shaped folds, with the planar folding line passing through respective vertices of the principal V-shaped fold and of the additional V-shaped folds, and the additional V-shaped folds are imbricated one over the other and

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homothetic with respect to the principal V-shaped fold by translation along the planar folding line.

Thus, a second advantage of the invention, associated with the first, is that with the exception of the vertex corresponding to the principal V-shaped fold, the vertices formed by the folding lines are separated from the corners of the envelope, that is, from the regions where the envelope is most subjected to the risk of impact and/or wear, capable of rupturing it.

Preferably, the planar parts form strips of equal length, with parallel edges, connected together by the bottom of the envelope, which is, for example, a convex polygon of predetermined order, where, in this case, the planar parts delineate a star when the envelope is lying flat, with the number of arms equal to the order of the polygon.

In the simplest embodiment of the invention, the bottom, which can be a regular polygon, is advantageously at least a polygon of relatively low order, for example, a square or a rectangle, that is, a fourth order rectangular polygon, where the star then assumes the form of a cross with four arms.

The packaging can furthermore have a reinforcement attached to the envelope, for example, by gluing, and covering at least partially the bottom and the planar parts of this envelope.

In order positively to hold the envelope in the unfolded position of the container, holding components are advantageously provided, these holding components comprising, for example, pairs of flaps that can be unfolded from the reinforcement, a first flap of each pair having a slit, and a second flap of this pair having a tab which is selectively inserted and retained in the slit.

In order better to withstand transport and present a nice appearance, the packaging of the invention can furthermore have a case in which the envelope is selectively inserted and held in folded position in order to protect the bottle.

Finally, the envelope is preferably coated, on its inner surface at least, with a water-resistant material such as a PET-plus-aluminum complex.

Other advantages and characteristics of the invention will appear more clearly in the following detailed description in reference to the appended drawings given only as an example and in which:

- Figure 1 is a perspective view of packaging according to the present invention, where the packaging comprises an envelope inserted in a case and shown in a position slightly withdrawn from the case;
- Figure 2 is a perspective view of the envelope in the open position, which, in this position, forms a container or a sealed vessel, which is capable of containing a bottle in order to refrigerate it;
- Figure 3 is a lateral elevation view of the envelope in the open position;

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- Figure 4 is a top view of the open envelope in the form of a container;
- Figure 5 is a bottom plan view of the envelope in the flattened position; and
- Figure 6 is a plan view, also in the flattened position, of a reinforcement which is to be attached to the bottom of the envelope, which can be seen in Figure 5.

As shown clearly in Figures 1 to 4, the packaging according to the present invention has envelope 1 made out of cardboard or a similar material. This envelope is generally composed of a certain number of folded walls, which, in the folded position, as shown in Figure 1, form a container capable of holding bottle B, and, in the unfolded position, as shown in Figures 2 to 4, form a container capable of holding a liquid that allows bottle B to be refrigerated. In this regard, envelope 1 will have, preferably on inner surface 2, an impermeable coating, such as a metallized polymer film, for example, a PET-plus-aluminum complex.

Returning to Figure 1, one sees that in the folded position, envelope 1 can be inserted into case 3, which can be a conventional cardboard box with cover 4.

Envelope 1, as seen clearly in Figures 1 to 5, is essentially composed of bottom 5 and an enveloping lateral wall formed by planar parts 6 separated and connected by accordion-folded parts 7.

According to the example represented, there are four rectangular planar walls 6 which form a part of the vertical wall of the envelope. When the envelope is lying flat, as shown in Figure 5, these planar parts 6 form a cross with four arms of equal length and width and whose intersection forms square bottom 5 of the envelope, which receives the bottom of bottle B.

As can be seen clearly in Figures 2 to 5, there are also four vertical accordion-folded parts 7, each of which is square in the flattened position (Figure 5) and has a certain number of folding lines.

For each accordion-folded part 7, these folding lines define two imbricated homothetic V's 8, 9 projecting towards the interior of envelope 1, whose points 10, when the envelope is lying flat, are directed towards the center of bottom 5 of this envelope. These folding lines also define fold 15, which also projects towards the interior of the packaging and ends at free edge 12 of the packaging.

Figure 5 clearly shows that one branch 8a, 9a of the two V's 8, 9 is parallel to edge 6a of one of planar parts 6 while being connected to said planar part, while the other branch 8b, 9b of the two imbricated V's 8, 9 is parallel to edge 6b of a neighboring planar part while being connected to said planar part. As is evident from Figure 5, each of the two imbricated V's 8, 9 that can be seen in Figures 2 to 4 forms a right angle with point 10 when envelope 1 is lying flat, forming a square bottom. In this figure, represented in the form of dotted lines, are the folding lines projecting on the interior side of the envelope, and represented in the form of solid lines are

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the folding lines recessed on the interior side of the envelope which forms a container as explained in the preceding.

As can be understood with the aid of Figure 5, each accordion-folded part 7 also has zigzag folding line 11 located in the plane passing especially through point 10 of the two imbricated V's 8, 9. This zigzag or broken folding line 11 ends, on the one hand, at the intersection of two neighboring planar parts 6, and on the other hand, at vertex 16 of each folding part 7, passing through fold 15, where vertex 16 is on the free edge 12 of envelope 1. More precisely, the alternating dotted and solid lines forming folding line 11 in Figure 5 show that said line consists of a series of alternating recessed and projecting broken lines.

It will also be observed that all the folding lines of each accordion-folded part 7 between one another define walls of approximately equal width. Thus, the wall between folding line 8a and edge 6a of planar part 6 has a width approximately equal to that of the wall formed between folding line 8a and intermediate folding line 13 between said line 8a and folding line 9a, to that of the wall formed between folding line 13 and folding line 9a, and to that formed between folding line 9 and last folding line 14 provided at the corner of each angle that the cardboard blank constituting the envelope forms lying flat. Furthermore, folds 14 define a square with free edge 12 in each exterior angle of the envelope lying flat. It is therefore understood that successive folding lines 14, 9, 13 and 8 form as many V's with branches parallel to one another and with edge 6a of planar parts 6, where it is understood, as explained in the preceding, that folding line 11 consists of alternating recessed and projecting broken lines with reversal of the direction of these broken lines at the intersection of folding line 11 with the point of all the V's.

In short, as seen in Figures 2, 3 and 4, each accordion-folded part 7 connected to two neighboring planar parts 6 is formed by a number of alternating external and reflex dihedral angles which converge towards the center of bottom 5 of packaging 1 on both sides of the plane containing zigzag folding line 11, which, when packaging 1 is in the flattened position, as seen in Figure 5, passes through the center of the square wall forming bottom 5 of the packaging.

Figure 6 shows a reinforcement 20 for the envelope in the form of a cross identical to the cross formed by the four walls 6 in Figure 5. This reinforcement, made of cardboard, for example, can be attached by gluing to the exterior surface of the envelope in an exactly superimposed position on planar walls 6 and bottom 5.

It can also be seen in Figure 6 that cruciform reinforcement 20 has, on one side, two opposing flaps 21, each with folding line 22 and a hook-shaped part 23 at the end; while, on the other side, and opposite the aforementioned flaps, are another pair of flaps 24, each with folding lines 25 and a slit 26 in which hook-shaped part 23 can be inserted. More precisely, reinforcement 20 is formed by two arms 27, 28 at a right angle, with flaps 21 and 24 situated on

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both sides of arm 28. 29 and 30 respectively indicate lines for folding flaps 24, 21 with respect to arm 27 of reinforcement 20. Also, 31 indicates the cut free edges of flaps 21, 24.

Thus, as is shown clearly in Figures 2 and 3, flaps 21 and 24 of reinforcement 20 are folded against planar walls 6 of envelope 1, or more precisely, respectively against the two halves of arm 28 of reinforcement 20 which are superimposed on said planar walls 6. Thus, hook-shaped parts 23 can be introduced into their respective slits 26 where they can slide. Therefore, when envelope 1 is withdrawn from its case 3, as can be seen with reference to Figure 1, this envelope spreads out, flaring at the upper part to form the container shown in Figures 2 and 3, where it is understood that with this spreading, hook-shaped parts 23 will slide in slits 26 until said hook-shaped parts 23 stop at end 26a of slits 26, that is, at a point where each of slits 26 forms an elbow, which can be seen clearly in Figures 2, 3 and 6. Thus, envelope 1 will be locked for a given open position appropriate for forming a container which is capable of holding a liquid that can refrigerate the contents of bottle B housed in said container.

Packaging for a bottle is therefore produced according to the invention, which can be transformed almost instantly into a container or vessel for presentation and refrigeration of said bottle.

Of course, the invention is in no way limited to the embodiment described and illustrated, which was given only as an example, but rather extends to all packaging that satisfies the definition given for it in the claims.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. Packaging for a bottle, which has an envelope made from an impermeable and approximately planar surface, such as a cardboard blank, which is folded in such a way as to have bottom and an enveloping wall formed by planar parts alternating with accordion-folded parts, each accordion-folded part being connected to some first and second adjacent planar parts by some first and second respective shared edges which meet at a bottom of the envelope in order to form a principal V-shaped fold, where it is possible for said envelope to be spread out in order to constitute a container suitable for holding a liquid capable of refrigerating bottle (B) placed in this container, characterized by the fact that each accordion-folded part, is folded on both sides of planar folding line extending from bottom of envelope to free edge of envelope, said planar folding line is a broken line forming an alternating series of salient and reentrant (or reflex) dihedral angles.

2. Packaging according to claim 1, characterized by the fact that in addition to some first and second shared edges which define a principal V-shaped fold, each accordion-like part has internal folding lines which define at least two additional V-shaped folds, by the fact that the planar folding line passes through respective vertices of the principal V-shaped fold and of the additional V-shaped folds, and by the fact that the additional V-shaped folds are imbricated one over the other and are homothetic with respect to the principal V-shaped fold by translation along planar folding line.

3. Packaging according to any one of the preceding claims, characterized by the fact that planar parts form strips of equal length, with parallel edges, connected together by the bottom of the envelope.

4. Packaging according to claim 3, characterized by the fact that the bottom is a convex polygon of predetermined order, and by the fact that planar parts, when envelope is lying flat, delineate a star with a number of arms equal to the order of the polygon.

5. Packaging according to claim 4, characterized by the fact that bottom is a regular polygon.

6. Packaging according to claim 4 or 5, characterized by the fact that bottom is a fourth order rectangular polygon, with the star assuming the shape of a cross with four arms.

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7. Packaging according to any one of the preceding claims, characterized by the fact that it has reinforcement attached to the envelope, for example, by gluing, and covering at least partially bottom and planar parts of said envelope.

8. Packaging according to any one of the preceding claims, characterized by the fact that it has holding components in order to positively hold the envelope in the unfolded position of the container.

9. Packaging according to claims 7 and 8, characterized by the fact that holding components consist of pairs of flaps that can be unfolded from reinforcement, first flap of each pair having slit, and second flap of this pair having tab that is selectively inserted and retained in slit.

10. Packaging according to any one of the preceding claims, characterized by the fact that it also comprises case in which envelope is selectively inserted and held in the folded position in order to protect the bottle (B).

11. Packaging according to anyone of the preceding claims, characterized by the fact that the envelope has inner surface coated with a water-resistant material such as a PET-plus-aluminium complex.

12. Packaging for a bottle substantially as hereinbefore described with reference to the accompanying drawings.

Dated this ninth day of October 2002

Veuve Clicquot Ponsardin - Maison fondee en 1772
Patent Attorneys for the Applicant:

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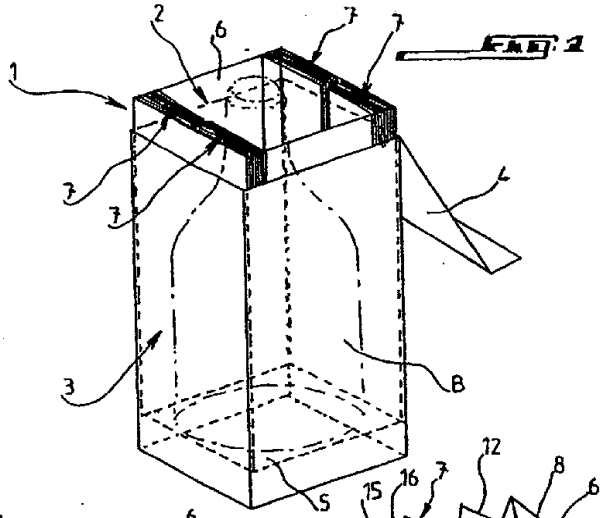

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FIG. 1

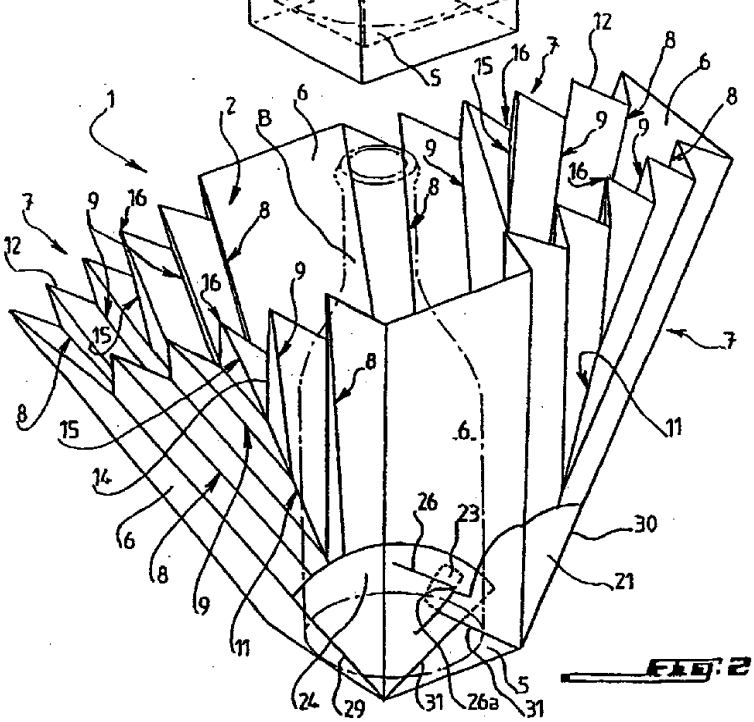

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FIG. 2

Fig. 3

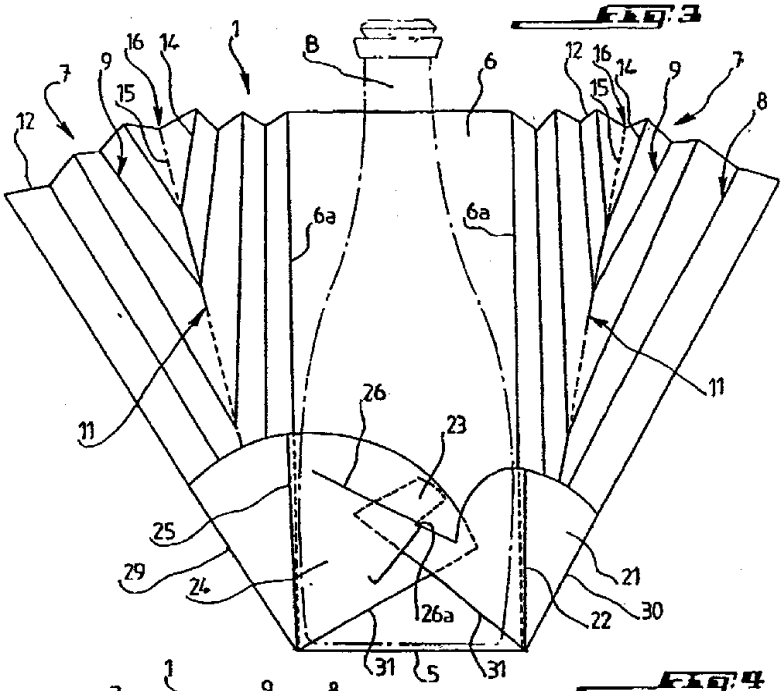
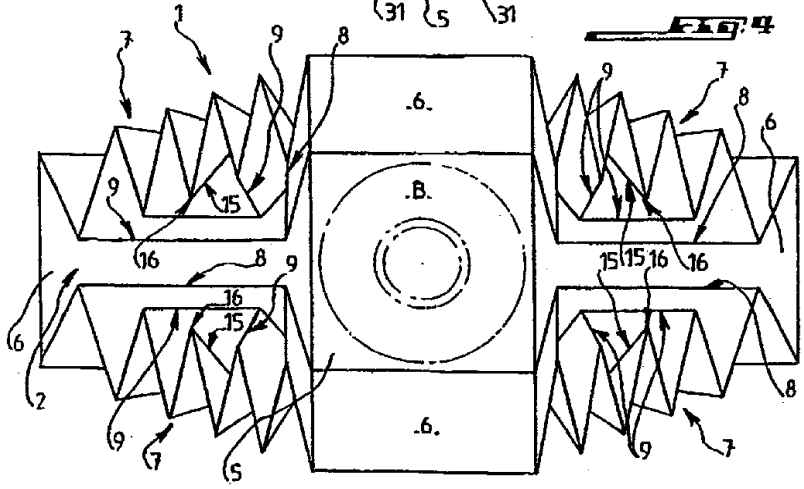

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Fig. 4


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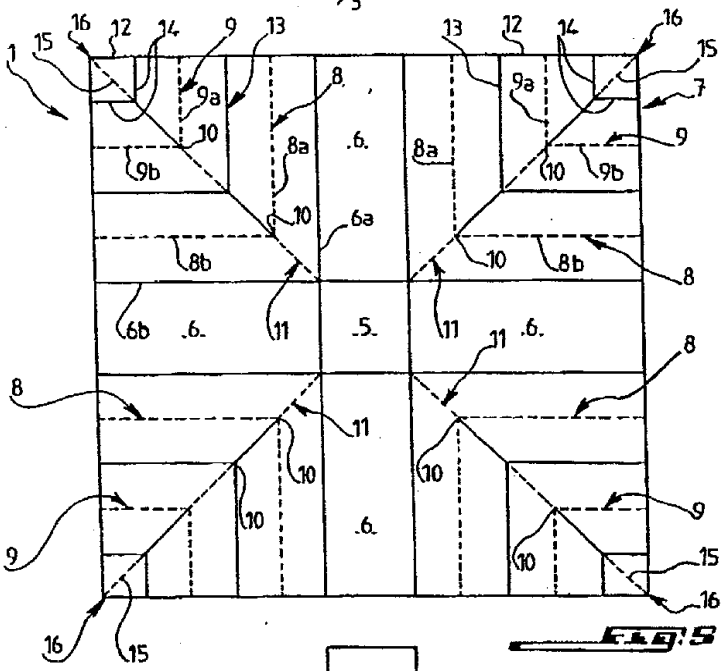

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Fig. 5

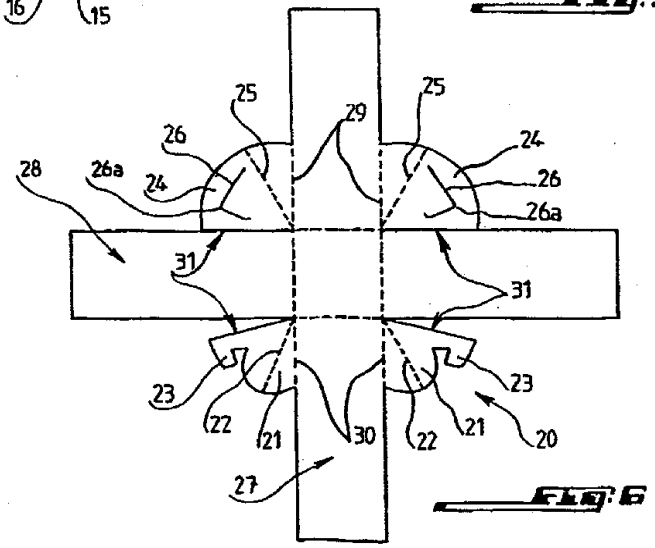

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Fig. 6